REMARKS

Claims 1 – 48 were pending in the instant application. Claims 1, 3, 5, 6, 7, 8, and 11 have been amended, claims 49 – 52 have been added, and claims 12-45 have been cancelled without waiver or prejudice. Therefore, claims 1 – 8, 10 – 11, 46 – 52 will be pending in the application upon entry of the amendments presented herein.

Claims 1, 3, 5, 6, 7, 8, and 11 have been amended to correct typographical errors, to delete recitations of non-elected subject matter, and/or to recite more fully and distinctly the invention. No new matter has been added.

Claims 49 – 52 were added to claim more fully the instant invention. Support for claims 49 – 52 can be found in the specification and at least, for example, in claim 1 as originally filed. No new matter has been added.

Claims 12 – 45 have been cancelled without waiver or prejudice as directed to non-elected subject matter. Applicants reserve the right to pursue the non-elected subject matter of these claims in one or more divisional patent applications.

Attached hereto as Appendix A is a marked-up version of the changes made to the claims by the current amendments. Appendix A is captioned "Version with markings to show changes made." Also attached hereto as Appendix B is a complete set of the claims that will be pending upon entry of the amendments presented herein.

Amendment of the claims is not to be construed as an acquiescence to any of the objections/rejections set forth in the instant Office Action, and was done solely to expedite prosecution of the application. Applicants reserve the right to pursue the claims as originally filed, or similar claims, in this or one or more subsequent patent applications.

Withdrawal of Claims 11 and 48

The Office Action indicates that claims 11 and 48 have been withdrawn as being directed to non-elected inventions. In view of the amendments to the claims, Applicants respectfully request rejoinder of claims 11 and 48 consistent with M.P.E.P. § 803.02. In particular, Applicants have amended the claims in order to exclude the species allegedly anticipated by the cited prior art. Accordingly, Applicants request that the search be extended in view of the amended claims to determine the patentability of claims 11 and 48 as presented herein.

Claim Rejections - 35 U.S.C. § 112

Rejection of Claims 1-8, 10, and 47 under 35 U.S.C. § 112, second paragraph

Claims 1-8, 10, and 47 are rejected under 35 U.S.C. § 112, first paragraph, "for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention." In particular, the Office Action sets forth the allegation that "[i]n claim 1, several of the substituents recited for Ring A on page 3, lines 9-13 are confusing and unclear. Particularly the terms 'alkylthio ether', 'alkylsulfoxide', 'alkylsulfone', 'arylthioether', 'arylsulfoxide', 'arylsulfone', 'aliphatic ether', 'aromatic ether' all represent compounds and not substituent groups."

Applicants thank the Examiner for the helpful suggestions for amending the claims. In accordance with the Examiner's suggestions, the claims have been amended to recite the corresponding substituent groups. In particular, "alkylthio ether" has been replaced with "alkylthio;" "alkylsulfoxide" has been replaced with "alkylsulfinyl;" "alkylsulfone" has been replaced with "alkylsulfonyl;" "arylthio ether" has been replaced with "arylthio;" "arylsulfoxide" has been replaced with "arylsulfinyl;" "arylsulfone" has been replaced with "arylsulfonyl;" and "aromatic ether" has been replaced with "aryloxy." Applicants therefore respectfully request reconsideration of this rejection.

The Office Action also indicates there is insufficient antecedent basis for the recitation "OCF_3" and "OCH_3" in claim 6, lines 2-3. Applicants have amended claim 6 and submit that rejection is overcome. Reconsideration and withdrawal of the rejection are respectfully requested.

Claim Rejections - 35 U.S.C. § 102

Claim Rejections under 35 U.S.C. § 102(e) – Calderwood I

Claims 1-8, 10, and 47 are rejected under 35 U.S.C. § 102(e) as being anticipated by Calderwood, U.S. Patent 6,001,839 (herein "Calderwood I"). Applicants have amended the claims and assert that the present claims are not anticipated by the cited reference. Specifically, no species disclosed in Calderwood I anticipates the claims as amended herein. Accordingly, Applicants respectfully request reconsideration of and withdrawal of this rejection.

Claim Rejections - 35 U.S.C. § 103

Claim Rejections under 35 U.S.C. § 103(a) – Calderw od II

Claim 46 is rejected under 35 U.S.C. § 103(a) as being obvious in view of Calderwood, PCT Publication WO 98/41525 (herein "Calderwood II"). The Office Action indicates that:

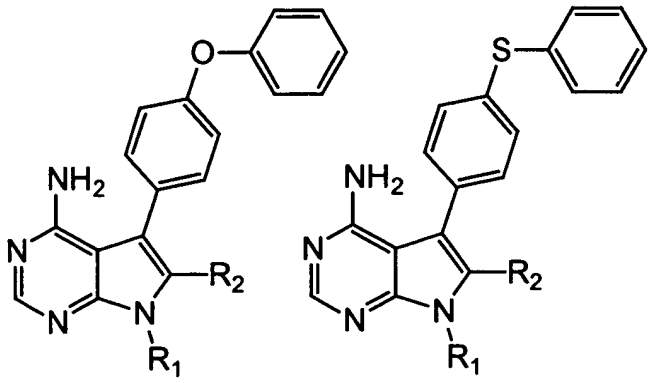
> [t]he reference teaches a generic group of compounds which embraces applicant's instantly claimed compounds. . . . The claims differ from the reference by reciting specific species of the reference genus. It would have been obvious to one having ordinary skill in the art at the time of invention to select any of the species of the genus taught by the reference, including those instantly claimed, because the skilled chemist would have the reasonable expectation that any of the species of the genus would have similar properties and, thus, the same use as taught for the genus as a whole i.e., as pharmaceutical therapeutic agents. One of ordinary skill in the art would have been motivated to select the claimed compounds from the genus in the reference since such compounds would have been suggested by the reference as a whole. It has been held that a prior art disclosed genus of useful compounds is sufficient to render prima facie obvious a species falling within a genus."

Applicants respectfully disagree and traverse the rejection.

Applicants assert that the Office Action is applying an inappropriate standard in making a *prima facie* obviousness rejection. According to M.P.E.P § 2144.08, a rejection of species for obviousness when the prior art teaches a genus should be based on "the scope and contents of the prior art; . . . the differences between the prior art and the claims in issue; [and] . . . the level of skill in the pertinent art . . . ."

Applicants further assert that notwithstanding this failure to apply this standard in making the obviousness rejection, the claimed species are nevertheless not obvious in view of the cited art. The cited reference discloses a large genus, and there is no teaching in the reference that would lead one of ordinary skill in the art to select the presently claimed species. Indeed, a very large genus may be an indication of the *non*-obviousness of later claimed species within that genus. *cf.* M.P.E.P § 2144.08(II)(A)(4)(a).

Furthermore, the cited reference actually teaches away from selecting the presently claimed compounds. According to Calderwood II, preferred compounds have the following substructures:



See, *e.g.*, Calderwood II at page 6, lines 2 – 3, and page 7, lines 1 – 4. None of the compounds claimed in claim 46 have either of these substructures. Consequently, the compounds of claim 46 are *not* preferred according to Calderwood II, and one of ordinary skill in the art would not be motivated to select the compounds of claim 46. Therefore, Applicants assert that the compounds of claim 46 are non-obvious over Calderwood II and respectfully request that the rejection of this claim be withdrawn.

Claims Rejected for Double Patenting

Double Patenting – Calderwood I

Claims 1-8, 10, and 47 are rejected under the judicially created doctrine of non-statutory double patenting over claims 1-24 of U.S. Patent 6,001,839 to Calderwood. Applicants respectfully traverse the rejection.

As apparent support for the rejection, the Office Action indicates, at page 9, that "[t]he subject matter claimed in the instant application is fully disclosed in the patent and is covered by the patent since the patent and the application are claiming common subject matter, as follows: The reference patent also claims an invention that is identical to the instantly claimed invention, see formula I in col. 37 and further, the specifically claimed compounds in col. 42, lines 36 – 37 and 49 – 50."

As noted above in the traversal of the 102(e) rejection, the subject matter of the claims at issue is not anticipated by the disclosure of the patent. Moreover, the disclosure (non-claims portion) of the patent cannot be relied upon in making out a non-statutory double patenting rejection. To the contrary, the relevant standard for a nonstatutory "obvious-type" double patenting rejection is set forth in the Manual of Patent Examination Procedure:

> *In determining whether a nonstatutory basis exists for a double patenting rejection, the first question to be asked is - does any claim in the application define an invention that is merely an obvious variation of an invention claimed in the patent? If the answer is yes, then an "obvious-type" nonstatutory double patenting rejection may be appropriate. . . . When considering whether the invention defined in a claim of an application is an obvious variation of the invention defined in the claim of a patent,* ***the disclosure of the patent may not be used as prior art****. . . . (emphasis added) M.P.E.P. § 804(II)(b)(1).*

Thus, the claims alone of the patent must provide some motivation or suggestion to one of ordinary skill in the art to somehow modify the patent claims to arrive at the claims of the instant application. Applicants assert that the claims of the patent neither teach nor suggest the specific compounds encompassed by the pending claims.

Furthermore, the pending claims are distinguished from those of Calderwood I by requiring that the aromatic ring of R_3 be substituted. There is no suggestion in the claims of the reference patent that the aromatic ring should be substituted. Furthermore, there is no suggestion in the reference patent that the group corresponding to R_3 may comprise the phosphorous-containing groups as recited in the pending claims. As the presently pending claims are not obvious over the claims of the reference patent, the double patenting rejection is improper and should be withdrawn.

Double Patenting – U.S. Application No. 09/381,036

Claims 1-8, 10, and 47 are rejected under the judicially created doctrine of non-statutory double patenting over unspecified claims of U.S. Application No. 09/381,036. Applicants respectfully traverse the rejection.

Applicants advise the Examiner that U.S. Application No. 09/381,036 was abandoned on October 13, 2001, thereby obviating the rejection. Applicants respectfully request reconsideration and withdrawal of the rejection.

Double Patenting – Calderwood I

Claim 46 is rejected under the judicially created doctrine of non-statutory double patenting over claims 1-24 of U.S. Patent 6,001,839 to Calderwood. Applicants respectfully traverses the rejection.

As delineated above, the entire disclosure of Calderwood I does not render claim 46 obvious. Those same arguments are reiterated herein in support of the non-obviousness of claim 46 merely in view of the claims of the same reference. Applicants respectfully request reconsideration and withdrawal of the rejection.

Double Patenting – U.S. Application No. 09/381,036

Claim 46 is rejected under the judicially created doctrine of non-statutory double patenting over unspecified claims of U.S. Application No. 09/381,036. Applicants respectfully traverse the rejection.

As noted above, U.S. Application No. 09/381,036 was abandoned on October 13, 2001, thereby obviating the rejection. Applicants respectfully request reconsideration and withdrawal of the rejection.

CONCLUSION

In view of the foregoing, entry of the amendments and remarks presented herein, favorable reconsideration and withdrawal of all the rejections, and allowance of the application are respectfully requested. If a telephone conversation with Applicants' attorney would expedite the prosecution of the subject application, Examiner is urged to call the undersigned at (617) 227-7400.

Respectfully Submitted,

LAHIVE & COCKFIELD, LLP

Dated January 2, 2002

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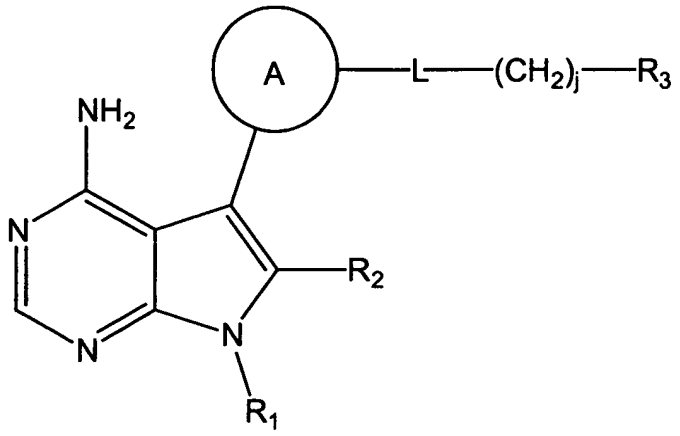
PCL/TRW:mxh

Appendix A

Version with Markings t Show Changes Made

1. (Twice Amended) A compound represented by the following structural formula:



or pharmaceutically acceptable salts thereof, wherein:

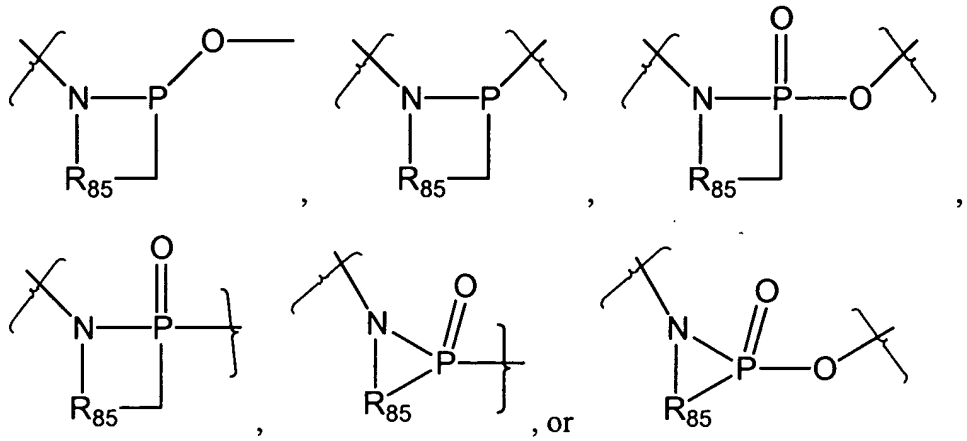
Ring A is a six membered aromatic ring or a five or six membered heteroaromatic ring which is [optionally] substituted with one or more substituents selected from the group consisting of a substituted or unsubstituted aliphatic group, a halogen, a substituted or unsubstituted aromatic group, substituted or unsubstituted heteroaromatic group, substituted or unsubstituted cycloalkyl, substituted or unsubstituted heterocycloalkyl, substituted or unsubstituted aralkyl, substituted or unsubstituted heteroaralkyl, cyano, nitro, $-NR_4R_5$, $-C(O)_2H$, [-OH,] a substituted or unsubstituted alkoxycarbonyl, $-C(O)_2$-haloalkyl, a substituted or unsubstituted alkylthio [ether], a substituted or unsubstituted [alkylsulfoxide] alkylsulfinyl, a substituted or unsubstituted [alkylsulfone] alkylsulfonyl, a substituted or unsubstituted arylthio [ether], a substituted or unsubstituted [arylsulfoxide] arylsulfinyl, a substituted or unsubstituted [arylsulfone] arylsulfonyl, a substituted or unsubstituted alkyl carbonyl, -C(O)-haloalkyl, [a substituted or unsubstituted aliphatic ether,] a substituted or unsubstituted [aromatic ether] aryloxy, a substituted or unsubstituted carboxamido, tetrazolyl, trifluoromethylsulphonamido,

trifluoromethylcarbonylamino, a substituted or unsubstituted alkynyl, a substituted or unsubstituted alkyl amido or alkylcarboxamido; a substituted or unsubstituted aryl amido or arylcarboxamido, a substituted or unsubstituted styryl and a substituted or unsubstituted aralkyl amido or aralkylcarboxamido;

L is [-O-;] -S-; -S(O)-; -$S(O)_2$-; [-N(R)-;] -N(C(O)OR)-; -N(C(O)R)-; -$N(SO_2R)$-; -CH_2O-; -CH_2S-; -$CH_2N(R)$-; -CH(NR)-; -$CH_2N(C(O)R)$)-; -$CH_2N(C(O)OR)$-; -$CH_2N(SO_2R)$-; -CH(NHR)-; -CH(NHC(O)R)-; -$CH(NHSO_2R)$-; -CH(NHC(O)OR)-; -CH(OC(O)R)-;-CH(OC(O)NHR)-; -CH=CH-; -C(=NOR)-; -C(O)-; -CH(OR)-; -C(O)N(R)-; -N(R)C(O)-; -$NHC(O)R_{130}$-; -N(R)S(O)-;-N(R)$S(O)_2$-; -$NHSO_2R_{130}$-; -OC(O)N(R)-; -N(R)C(O)N(R)-; -NRC(O)O-; -S(O)N (R)-; -$S(O)_2N(R)$-; -N(C(O)R)S(O)-; -N(C(O)R)$S(O)_2$-; -N(R)S(O)N(R)-; -$N(R)S(O)_2N(R)$-; -C(O)N(R)C(O)-; -S(O)N(R)C(O)-; -$S(O)_2N(R)C(O)$-; -OS(O)N(R)-; -$OS(O)_2N(R)$-; -N(R)S(O)O-; -N(R)$S(O)_2O$-; -N(R)S(O)C(O)-; -N(R)$S(O)_2C(O)$-; -SON(C(O)R)-; -$SO_2N(C(O)R)$-; -N(R)SON(R)-; -N(R)$SO_2N(R)$-; -C(O)O-; -N(R)P(OR')O-; -N(R)P(OR')-; -N(R)P(O)(OR')O-; -N(R)P(O)(OR')-; -N(C(O)R)P(OR')O-; -N(C(O)R)P(OR')-; -N(C(O)R)P(O)(OR')O- or -N(C(O)R)P(OR')-, wherein R and R' are each, independently, -H, an acyl group, a substituted or unsubstituted aliphatic group, a substituted or unsubstituted aromatic group, a substituted or unsubstituted heteroaromatic group, or a substituted or unsubstituted cycloalkyl group and R_{130} is an aliphatic group; or

L is -R_bN(R)$S(O)_2$-, -R_bN(R)P(O)-, or -R_bN(R)P(O)O-, wherein R_b is an alkylene group which when taken together with the sulphonamide, phosphinamide, or phosphonamide group to which it is bound forms a five or six membered ring fused to ring A; or

L is represented by one of the following structural formulas:



wherein R_{85} taken together with the phosphinamide, or phophonamide is a 5-, 6-, or 7 -membered, aromatic, heteroaromatic or heterocycloalkyl ring system;

R_1 is -H, 2-phenyl-l,3-dioxan-5-yl, a C1-C6 alkyl group, a C3-C8 cycloalkyl group, a C5-C7 cycloalkenyl group or an optionally substituted phen(C1-C6 alkyl) group, wherein the alkyl, cycloalkyl and cycloalkenyl groups are optionally substituted by one or more groups of formula -OR^a; provided that -OR^a is not located on the carbon attached to nitrogen;

R^a is -H or a C1-C6 alkyl group or a C3-C6 cycloalkyl;

R_2 is -H, a substituted or unsubstituted aliphatic group, a substituted or unsubstituted cycloalkyl, a halogen, -OH, cyano, a substituted or unsubstituted aromatic group, a substituted or unsubstituted heteroaromatic group, a substituted or unsubstituted heterocycloalkyl, a substituted or unsubstituted aralkyl, a substituted or unsubstituted heteroaralkyl, -NR_4R_5, or -$C(O)NR_4R_5$;

R_3 is a substituted or unsubstituted cycloalkyl, a substituted or unsubstituted aromatic group, a substituted or unsubstituted heteroaromatic group, or a substituted or unsubstituted heterocycloalkyl; or L is -$NRSO_2$-, -NRC(O)-, -NRC(O)O-, -$S(O)_2NR$-, -C(O)NR- or -OC(O)NR-, and R_3 is substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl or substituted or unsubstituted aralkyl;

provided that j is 0 when L is -CH_2NR-, -C(O)NR- or -NRC(O)- and R_3 is azacycloalkyl or azaheteroaryl; and

[provided that j is 0 when L is -O- and R_3 is phenyl;]

R_4, R_5 and the nitrogen atom together form a 3, 4, 5, 6 or 7-membered, substituted or unsubstituted heterocycloalkyl, substituted or unsubstituted heterobicycloalkyl or a substituted or unsubstituted heteroaromatic; or

R_4 and R_5 are each, independently, -H, azabicycloalkyl, a substituted or unsubstituted alkyl group or Y-Z;

Y is selected from the group consisting of -C(O)-, -$(CH_2)_p$-, -$S(O)_2$-, -C(O)O-, -SO_2NH-, -CONH-, $(CH_2)_pO$-, -$(CH_2)_pNH$-, -$(CH_2)_pS$-, -$(CH_2)_pS(O)$-, and -$(CH_2)S(O)_2$-;

p is an integer from 0 to 6;

Z is a substituted or unsubstituted alkyl, substituted or unsubstituted amino, substituted or unsubstituted aryl, substituted or unsubstituted heteroaryl or substituted or unsubstituted heterocycloalkyl group; and

j an integer from 0 to 6.

3. (Amended) The compound of Claim 2 wherein R_3 is substituted with one or more substituents selected from the group consisting of F, Cl, Br, I, CH_3, NO_2, OCF_3, OCH_3, CN, CO_2CH_3, CF_3, t-butyl, pyridyl, substituted or unsubstituted oxazolyl, substituted or unsubstituted benzyl, substituted or unsubstituted benzenesulfonyl, substituted or unsubstituted phenoxy, substituted or unsubstituted phenyl, substituted or unsubstituted amino, carboxyl, substituted or unsubstituted tetrazolyl, styryl, -S-(substituted or unsubstituted aryl), -S-(substituted or unsubstituted heteroaryl), substituted or unsubstituted heteroaryl, substituted or unsubstituted heterocycloalkyl, alkynyl, $-C(O)NR_fR_g$, R_c, and CH_2OR_c;

wherein R_f, R_g and the nitrogen atom together form a 3, 4, 5, 6 or 7-membered, substituted or unsubstituted heterocycloalkyl, substituted or unsubstituted heterobicycloalkyl or a substituted or unsubstituted heteroaromatic R_f and R_g are each, independently, -H, a substituted or unsubstituted aliphatic group or a substituted or unsubstituted aromatic group; and

R_c is hydrogen, or substituted or unsubstituted alkyl or substituted or unsubstituted aryl, $-W-(CH_2)_t-NR_dR_e$, $-W-(CH_2)_t$-O-alkyl, $-W-(CH_2)_t$-S-alkyl, or $-W-(CH_2)_t$-OH;

t is an integer from 0 to 6;

W is a bond or -O-, -S-, -S(O)-, $-S(O)_2-$, or $-NR_k-$;

R_k is -H or alkyl; and

R_d, R_e and the nitrogen atom to which they are attached together form a 3, 4, 5, 6 or 7-membered substituted or unsubstituted heterocycloalkyl or substituted or unsubstituted heterobicyclic group; or

R_d and R_e are each, independently, -H, alkyl, alkanoyl or -K-D;

K is $-S(O)_2-$, -C(O)-, -C(O)NH-, $-C(O)_2-$, or a direct bond;

D is a substituted or unsubstituted aryl, a substituted or unsubstituted heteroaryl, a substituted or unsubstituted aralkly, a substituted or unsubstituted heteroaromatic group, a substituted or unsubstituted heteroaralkyl, a substituted or unsubstituted cycloalkyl, a substituted or unsubstituted heterocycloalkyl, a substituted or unsubstituted amino, a substituted or unsubstituted aminoalkyl, a substituted or unsubstituted aminocycloalkyl, $COOR_i$ or substituted or unsubstituted alkyl; and

R_i is a substituted or unsubstituted aliphatic group or a substituted or unsubstituted aromatic group.

5. (Amended) The compound of Claim 1, wherein ring A is selected from the group consisting of a substituted [or unsubstituted] phenyl, a substituted [or unsubstituted] naphthyl, a substituted [or unsubstituted] pyridyl, and a substituted [or unsubstituted] indole.

6. (Amended) The compound of Claim 5 wherein ring A is substituted with one or more substituent selected from the group consisting of F, CI, Br, I, CH_3, NO_2, [OCF_3, OCH_3,] CN, CO_2CH_3, CF_3, t-butyl, pyridyl, substituted or unsubstituted oxazolyl, substituted or unsubstituted benzyl, substituted or unsubstituted benzenesulfonyl, substituted or unsubstituted phenoxy, substituted or unsubstituted phenyl, substituted or unsubstituted amino, carboxyl, substituted or unsubstituted tetrazolyl, styryl, -S-(substituted or unsubstituted aryl), -S-(substituted or unsubstituted heteroaryl), substituted or unsubstituted heteroaryl, substituted or unsubstituted heterocycloalkyl, alkynyl, $-C(O)NR_fR_g$, R_c and CH_2OR_c.

R_f, R_g and the nitrogen atom together form a 3, 4, 5, 6 or 7-membered, substituted or unsubstituted heterocycloalkyl, substituted or unsubstituted heterobicycloalkyl or a substituted or unsubstituted heteroaromatic; or

R_f and R_g are each, independently, -H, a substituted or unsubstituted aliphatic group or a substituted or unsubstituted aromatic group; and

R_c is hydrogen, substituted or unsubstituted alkyl, substituted or unsubstituted aryl, $-W-(CH_2)_t-NR_dR_e$, $-W-(CH_2)_t$-O-alkyl, $-W-(CH_2)_t$-S-alkyl, or $-W-(CH_2)_t-OH$;

[T] t is an integer from 0 to 6;

W is a bond or -O-, -S-, -S(O)-, $-S(O)_2-$, or $-NR_k-$;

R_k is -H or alkyl; and

R_d, R_e and the nitrogen atom to which they are attached together form a 3, 4, 5, 6 or 7-membered substituted or unsubstituted heterocycloalkyl, substituted or unsubstituted heterobicycloalkyl or a substituted or unsubstituted heteroaromatic; or

R_d and R_e are each, independently, -H, alkyl, alkanoyl, or -K-D;

K is $-S(O)_2-$, -C(O)-, -C(O)NH-, $-C(O)_2-$, or a direct bond;

D is a substituted or unsubstituted aryl, substituted or unsubstituted heteroaryl, substituted or unsubstituted aralkyl, substituted or unsubstituted heteroaromatic group, substituted or unsubstituted heteroaralkyl, substituted or unsubstituted cycloalkyl, substituted or unsubstituted heterocycloalkyl, substituted or unsubstituted amino, substituted or unsubstituted aminoalkyl, substituted or unsubstituted aminocycloalkyl, $COOR_i$, or a substituted or unsubstituted alkyl; and

R_i is a substituted or unsubstituted aliphatic group or a substituted or unsubstituted aromatic group.

7. (Amended) The compound of Claim 6, wherein ring A is a substituted [or unsubstituted] phenyl.

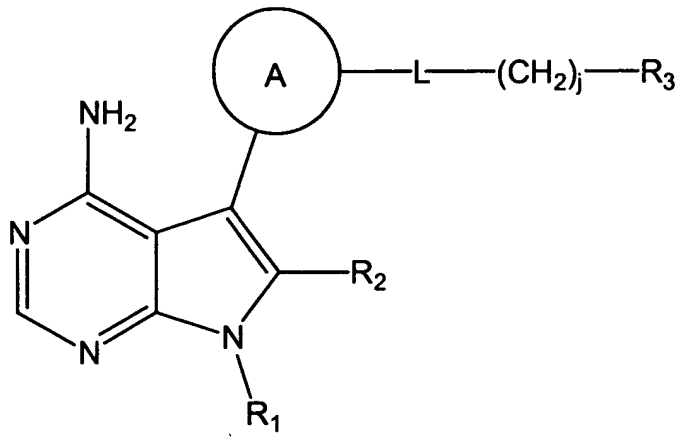
8. (Amended) The compound of Claim 1, wherein [R^1] $\underline{R_1}$ is a cyclopentyl group, a hydroxycyclopentyl or an isopropyl.

11. (Twice Amended) The compound of Claim 1, wherein L is [-O-,] -$NHSO_2R_{130}$-, -NHC(O)O-, or -$NHC(O)R_{130}$-.

Appendix B

Pending Claims upon Entry of the Amendments Directed Herein

1. (Twice Amended) A compound represented by the following structural formula:



or pharmaceutically acceptable salts thereof, wherein:

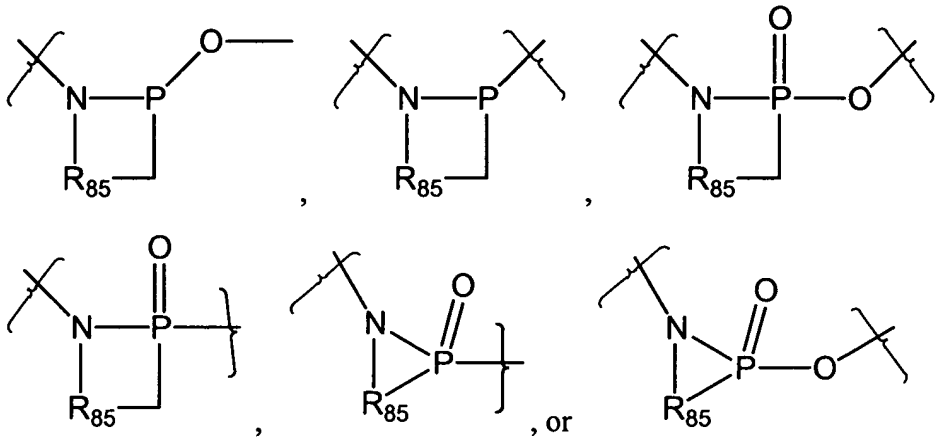
Ring A is a six membered aromatic ring or a five or six membered heteroaromatic ring which is substituted with one or more substituents selected from the group consisting of a substituted or unsubstituted aliphatic group, a halogen, a substituted or unsubstituted aromatic group, substituted or unsubstituted heteroaromatic group, substituted or unsubstituted cycloalkyl, substituted or unsubstituted heterocycloalkyl, substituted or unsubstituted aralkyl, substituted or unsubstituted heteroaralkyl, cyano, nitro, $-NR_4R_5$, $-C(O)_2H$, a substituted or unsubstituted alkoxycarbonyl, $-C(O)_2$-haloalkyl, a substituted or unsubstituted alkylthio, a substituted or unsubstituted alkylsulfinyl, a substituted or unsubstituted alkylsulfonyl, a substituted or unsubstituted arylthio, a substituted or unsubstituted arylsulfinyl, a substituted or unsubstituted arylsulfonyl, a substituted or unsubstituted alkyl carbonyl, -C(O)-haloalkyl, a substituted or unsubstituted aryloxy, a substituted or unsubstituted carboxamido, tetrazolyl, trifluoromethylsulphonamido, trifluoromethylcarbonylamino, a substituted or unsubstituted alkynyl, a substituted or unsubstituted alkyl amido or alkylcarboxamido; a substituted or unsubstituted aryl amido or arylcarboxamido, a substituted or unsubstituted styryl and a substituted or unsubstituted aralkyl amido or aralkylcarboxamido;

L is -S-; -S(O)-; $-S(O)_2$-; -N(C(O)OR)-; -N(C(O)R)-; $-N(SO_2R)$-; $-CH_2O$-; $-CH_2S$-; $-CH_2N(R)$-; -CH(NR)-; $-CH_2N(C(O)R))$-; $-CH_2N(C(O)OR)$-; $-CH_2N(SO_2R)$-; -CH(NHR)-; -

CH(NHC(O)R)-; -CH(NHSO$_2$R)-; -CH(NHC(O)OR)-; -CH(OC(O)R)-;-CH(OC(O)NHR)-; -CH=CH-; -C(=NOR)-; -C(O)-; -CH(OR)-; -C(O)N(R)-; -N(R)C(O)-; -NHC(O)R$_{130}$-; -N(R)S(O)-;-N(R)S(O)$_2$-; -NHSO$_2$R$_{130}$-; -OC(O)N(R)-; -N(R)C(O)N(R)-; -NRC(O)O-; -S(O)N (R)-; -S(O)$_2$N(R)-; -N(C(O)R)S(O)-; -N(C(O)R)S(O)$_2$-; -N(R)S(O)N(R)-; -N(R)S(O)$_2$N(R)-; -C(O)N(R)C(O)-; -S(O)N(R)C(O)-; -S(O)$_2$N(R)C(O)-; -OS(O)N(R)-; -OS(O)$_2$N(R)-; -N(R)S(O)O-; -N(R)S(O)$_2$O-; -N(R)S(O)C(O)-; -N(R)S(O)$_2$C(O)-; -SON(C(O)R)-; -SO$_2$N(C(O)R)-; -N(R)SON(R)-; -N(R)SO$_2$N(R)-; -C(O)O-; -N(R)P(OR')O-; -N(R)P(OR')-; -N(R)P(O)(OR')O-; -N(R)P(O)(OR')-; -N(C(O)R)P(OR')O-; -N(C(O)R)P(OR')-; -N(C(O)R)P(O)(OR')O- or -N(C(O)R)P(OR')-, wherein R and R' are each, independently, -H, an acyl group, a substituted or unsubstituted aliphatic group, a substituted or unsubstituted aromatic group, a substituted or unsubstituted heteroaromatic group, or a substituted or unsubstituted cycloalkyl group and R$_{130}$ is an aliphatic group; or

L is -R$_b$N(R)S(O)$_2$-, -R$_b$N(R)P(O)-, or -R$_b$N(R)P(O)O-, wherein R$_b$ is an alkylene group which when taken together with the sulphonamide, phosphinamide, or phosphonamide group to which it is bound forms a five or six membered ring fused to ring A; or

L is represented by one of the following structural formulas:



wherein R$_{85}$ taken together with the phosphinamide, or phophonamide is a 5-, 6-, or 7 -membered, aromatic, heteroaromatic or heterocycloalkyl ring system;

R$_1$ is -H, 2-phenyl-l,3-dioxan-5-yl, a C1-C6 alkyl group, a C3-C8 cycloalkyl group, a C5-C7 cycloalkenyl group or an optionally substituted phen(C1-C6 alkyl) group, wherein the alkyl,

cycloalkyl and cycloalkenyl groups are optionally substituted by one or more groups of formula -OR^a; provided that -OR^a is not located on the carbon attached to nitrogen;

R^a is -H or a C1-C6 alkyl group or a C3-C6 cycloalkyl;

R_2 is -H, a substituted or unsubstituted aliphatic group, a substituted or unsubstituted cycloalkyl, a halogen, -OH, cyano, a substituted or unsubstituted aromatic group, a substituted or unsubstituted heteroaromatic group, a substituted or unsubstituted heterocycloalkyl, a substituted or unsubstituted aralkyl, a substituted or unsubstituted heteroaralkyl, -NR_4R_5, or -$C(O)NR_4R_5$;

R_3 is a substituted or unsubstituted cycloalkyl, a substituted or unsubstituted aromatic group, a substituted or unsubstituted heteroaromatic group, or a substituted or unsubstituted heterocycloalkyl; or L is -$NRSO_2$-, -NRC(O)-, -NRC(O)O-, -$S(O)_2NR$-, -C(O)NR- or -OC(O)NR-, and R_3 is substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl or substituted or unsubstituted aralkyl;

provided that j is 0 when L is -CH_2NR-, -C(O)NR- or -NRC(O)- and R_3 is azacycloalkyl or azaheteroaryl; and

R_4, R_5 and the nitrogen atom together form a 3, 4, 5, 6 or 7-membered, substituted or unsubstituted heterocycloalkyl, substituted or unsubstituted heterobicycloalkyl or a substituted or unsubstituted heteroaromatic; or

R_4 and R_5 are each, independently, -H, azabicycloalkyl, a substituted or unsubstituted alkyl group or Y-Z;

Y is selected from the group consisting of -C(O)-, -$(CH_2)_p$-, -$S(O)_2$-, -C(O)O-, -SO_2NH-, -CONH-, $(CH_2)_pO$-, -$(CH_2)_pNH$-, -$(CH_2)_pS$-, -$(CH_2)_pS(O)$-, and -$(CH_2)S(O)_2$-;

p is an integer from 0 to 6;

Z is a substituted or unsubstituted alkyl, substituted or unsubstituted amino, substituted or unsubstituted aryl, substituted or unsubstituted heteroaryl or substituted or unsubstituted heterocycloalkyl group; and

j an integer from 0 to 6.

2. The compound of Claim 1, wherein R_3 is selected from the group consisting of a substituted or unsubstituted phenyl, a substituted or unsubstituted naphthyl, a substituted or unsubstituted pyridyl, a substituted or unsubstituted thienyl, a substituted or unsubstituted benzotriazole, a substituted or unsubstituted tetrahydropyranyl, a substituted or unsubstituted

tetrahydrofuranyl, a substituted or unsubstituted dioxane, a substituted or unsubstituted dioxolane, a substituted or unsubstituted quinoline, a substituted or unsubstituted thiazole, a substituted or unsubstituted isoxazole, substituted or unsubstituted cyclopentanyl, a substituted or unsubstituted bezofuran, substituted or unsubstituted benzothiophene, substituted or unsubstituted benzisoxazole, substituted or unsubstituted benzisothiazole, substituted or unsubstituted benzothiazole, substituted or unsubstituted bezoxazole, substituted or unsubstituted benzoxazole, substituted or unsubstituted bezimidazole, substituted or unsubstituted benzoxadiazole, substituted or unsubstituted benzothiadiazole, substituted or unsubstituted isoquinoline, substituted or unsubstituted quinozaline, substituted or unsubstituted indole and substituted or unsubstituted pyrazole.

3. (Amended) The compound of Claim 2 wherein R_3 is substituted with one or more substituents selected from the group consisting of F, Cl, Br, I, CH_3, NO_2, OCF_3, OCH_3, CN, CO_2CH_3, CF_3, t-butyl, pyridyl, substituted or unsubstituted oxazolyl, substituted or unsubstituted benzyl, substituted or unsubstituted benzenesulfonyl, substituted or unsubstituted phenoxy, substituted or unsubstituted phenyl, substituted or unsubstituted amino, carboxyl, substituted or unsubstituted tetrazolyl, styryl, -S-(substituted or unsubstituted aryl), -S-(substituted or unsubstituted heteroaryl), substituted or unsubstituted heteroaryl, substituted or unsubstituted heterocycloalkyl, alkynyl, $-C(O)NR_fR_g$, R_c, and CH_2OR_c;

wherein R_f, R_g and the nitrogen atom together form a 3, 4, 5, 6 or 7-membered, substituted or unsubstituted heterocycloalkyl, substituted or unsubstituted heterobicycloalkyl or a substituted or unsubstituted heteroaromatic R_f and R_g are each, independently, -H, a substituted or unsubstituted aliphatic group or a substituted or unsubstituted aromatic group; and

R_c is hydrogen, or substituted or unsubstituted alkyl or substituted or unsubstituted aryl, $-W-(CH_2)_t-NR_dR_e$, $-W-(CH_2)_t$-O-alkyl, $-W-(CH_2)_t$-S-alkyl, or $-W-(CH_2)_t$-OH;

t is an integer from 0 to 6;

W is a bond or -O-, -S-, -S(O)-, $-S(O)_2-$, or $-NR_k-$;

R_k is -H or alkyl; and

R_d, R_e and the nitrogen atom to which they are attached together form a 3, 4, 5, 6 or 7-membered substituted or unsubstituted heterocycloalkyl or substituted or unsubstituted heterobicyclic group; or

R_d and R_e are each, independently, -H, alkyl, alkanoyl or -K-D;

K is $-S(O)_2-$, -C(O)-, -C(O)NH-, $-C(O)_2-$, or a direct bond;

D is a substituted or unsubstituted aryl, a substituted or unsubstituted heteroaryl, a substituted or unsubstituted aralkly, a substituted or unsubstituted heteroaromatic group, a substituted or unsubstituted heteroaralkyl, a substituted or unsubstituted cycloalkyl, a substituted or unsubstituted heterocycloalkyl, a substituted or unsubstituted amino, a substituted or unsubstituted aminoalkyl, a substituted or unsubstituted aminocycloalkyl, $COOR_i$ or substituted or unsubstituted alkyl; and

R_i is a substituted or unsubstituted aliphatic group or a substituted or unsubstituted aromatic group.

4. (Amended) The compound of Claim 3, wherein R_3 is a substituted or unsubstituted phenyl, thienyl, benzoxadiazolyl, or benzothiadiazolyl.

5. (Amended) The compound of Claim 1, wherein ring A is selected from the group consisting of a substituted phenyl, a substituted naphthyl, a substituted pyridyl, and a substituted indole.

6. (Amended) The compound of Claim 5 wherein ring A is substituted with one or more substituent selected from the group consisting of F, CI, Br, I, CH_3, NO_2, CN, CO_2CH_3, CF_3, t-butyl, pyridyl, substituted or unsubstituted oxazolyl, substituted or unsubstituted benzyl, substituted or unsubstituted benzenesulfonyl, substituted or unsubstituted phenoxy, substituted or unsubstituted phenyl, substituted or unsubstituted amino, carboxyl, substituted or unsubstituted tetrazolyl, styryl, -S-(substituted or unsubstituted aryl), -S-(substituted or unsubstituted heteroaryl), substituted or unsubstituted heteroaryl, substituted or unsubstituted heterocycloalkyl, alkynyl, $-C(O)NR_fR_g$, R_c and CH_2OR_c.

R_f, R_g and the nitrogen atom together form a 3, 4, 5, 6 or 7-membered, substituted or unsubstituted heterocycloalkyl, substituted or unsubstituted heterobicycloalkyl or a substituted or unsubstituted heteroaromatic; or

R_f and R_g are each, independently, -H, a substituted or unsubstituted aliphatic group or a substituted or unsubstituted aromatic group; and

R_c is hydrogen, substituted or unsubstituted alkyl, substituted or unsubstituted aryl, -W-$(CH_2)_t$-NR_dR_e, -W-$(CH_2)_t$-O-alkyl, -W-$(CH_2)_t$-S-alkyl, or -W-$(CH_2)_t$-OH;

t is an integer from 0 to 6;

W is a bond or -O-, -S-, -S(O)-, -$S(O)_2$-, or -NR_k-;

R_k is -H or alkyl; and

R_d, R_e and the nitrogen atom to which they are attached together form a 3, 4, 5, 6 or 7-membered substituted or unsubstituted heterocycloalkyl, substituted or unsubstituted heterobicycloalkyl or a substituted or unsubstituted heteroaromatic; or

R_d and R_e are each, independently, -H, alkyl, alkanoyl, or -K-D;

K is -$S(O)_2$-, -C(O)-, -C(O)NH-, -$C(O)_2$-, or a direct bond;

D is a substituted or unsubstituted aryl, substituted or unsubstituted heteroaryl, substituted or unsubstituted aralkyl, substituted or unsubstituted heteroaromatic group, substituted or unsubstituted heteroaralkyl, substituted or unsubstituted cycloalkyl, substituted or unsubstituted heterocycloalkyl, substituted or unsubstituted amino, substituted or unsubstituted aminoalkyl, substituted or unsubstituted aminocycloalkyl, $COOR_i$, or a substituted or unsubstituted alkyl; and

R_i is a substituted or unsubstituted aliphatic group or a substituted or unsubstituted aromatic group.

7. (Amended) The compound of Claim 6, wherein ring A is a substituted phenyl.

8. (Amended) The compound of Claim 1, wherein R_1 is a cyclopentyl group, a hydroxycyclopentyl or an isopropyl.

10. The compound of Claim 1, wherein R_2 is -H.

11. (Twice Amended) The compound of Claim 1, wherein L is -$NHSO_2R_{130}$-, -NHC(O)O-, or -$NHC(O)R_{130}$-.

46. A compound selected from the group consisting of

N-(4-(4-amino-7-cyclopentyl-7H-pyrrolo[2,3-d]pyrimidin-5-yl)-2-fluorophenyl)-2-(trifluoromethoxy)-1-benzenesulfonamide;

N-(4-(4-amino-7-cyclopentyl-7H-pyrrolo[2,3-d]pyrimidin-5-y1)-2-chlorophenyl)-2-chloro-l-benzenesulfonamide;

N-(4-(4-amino-7-cyclopentyl-7H-pyrrolo[2,3-d]pyrimidin-5-yl)-2-chloropheny)-2-fluoro-l-benzenesulfonamide;

N-(4-(4-amino-7-cyclopentyl-7H-pyrrolo[2,3-d]pyrimidin-5-yl)-2-fluorophenyl)-2-chloro-l-benzenesulfonamide;

N-(4-(4-amino-7-cyclopentyl-7H-pyrrolo[2,3-d]pyrimidin-5-yl)-2-chlorophenyl)-3-fluoro-l-benzenesulfonamide;

N-(4-(4-amino-7-cyclopentyl-7H-pyrrolo[2,3-d]pyrimidin-5-yl)-2-chlorophenyl)-1-benzenesulfonamide;

N-(4-(4-amino-7-cyclopentyl-7H-pyrrolo[2,3-d]pyrimidin-5-yl)-2-nitrophenyl)-1-benzenesulfonamide;

N-(4-(4-amino-7-cyclopentyl-7H-pyrrolo[2,3-d]pyrimidin-5-yl)-2-chlorophenyl)-3-(trifluoromethyl)-l-benzenesulfonamide;

N-(4-(4-amino-7-cyclopentyl-7H-pyrrolo[2,3-d]pyrimidin-5-yl)-2-chlorophenyl)-4-chloro-l-benzenesulfonamide;

N-(4-(4-amino-7-cyclopentyl-7H-pyrrolo[2,3-d]pyrimidin-5-yl)-2-chlorophenyl)-2-cyano-l-benzenesulfonamide;

N-(4-(4-amino-7-cyclopentyl-7H-pyrrolo[2,3-d]pyrimidin-5-yl)-2-fluorophenyl)-2-nitro-l-benzenesulfonamide;

N-4-(4-amino-7-cyclopentyl-7H-pyrrolo[2,3-d]pyrimidin-5-yl)-2-fluorophenyl)-2,6-difluoro-l-benzenesulfonamide;

N-(4-(4-amino-7-cyclopentyl-7H-pyrrolo[2,3-d]pyrimidin-5-yl)-2-fluorophenyl)-2,3,4-trifluoro-l-benzenesulfonamide;

N-(4-(4-amino-7-cyclopentyl-7H-pyrrolo[2,3-d]pyrimidin-5-yl)-2-fluorophenyl)-4-bromo-2-fluoro-l-benzenesulfonamide;

N-(4-(4-amino-7-cyclopentyl-7H-pyrrolo[2,3-d]pyrimidin-5-yl)-2-fluorophenyl)-2,5-difluoro-l-benzenesulfonamide;

N-(4-(4-amino-7-cyclopentyl-7H-pyrrolo[2,3-d]pyrimidin-5-yl)-2-fluorophenyl)-3,4-difluoro-l-benzenesulfonamide;

N-(4-(4-amino-7-cyclopenty1-7H-pyrrolo[2,3-d]pyrimidin-5-yl)-2-fluorophenyl)-2-bromo-l-benzenesulfonamide;

N-(4-(4-amino-7-cyclopentyl-7H-pyrrolo[2,3-d]pyrimidin-5-yl)-2-fluorophenyl)-2,6-dichloro-l-benzenesulfonamide;

N-(4-(4-amino-7-cyclopentyl-7H-pyuolo[2,3-d]pyrimidin-5-yl)-2-fluorophenyl)-2,4,6-trichloro-l-benzenesulfonamide;

N-(4-(4-amino-7-cyclopentyl-7H-pyrrolo[2,3-d]pyrimidin-5-yl)-2-fluorophenyl)-2,4-dichloro-l-benzenesulfonamide;

N-(4-(4-amino-7-cyclopentyl-7H-pyrrolo[2,3-d]pyrimidin-5-yl)-2-fluorophenyl)-2-chloro-4- fluoro-l-benzenesulfonamide;

N-(4-(4-amino-7-cyclopentyl-7H-pyrrolo[2,3-d]pyrirnidin-5-yl)-2-fluorophenyl)-2,4-difluoro-l-benzenesulfonamide;

N-(4-(4-amino-7-cyclopentyl-7H-pyrrolo[2,3-d]pyrirnidin-5-yl)-2-fluorophenyl)-2-iodo-l-benzenesulfonamide;

N-(4-(4-amino-7-cyclopentyl-7H-pyrrolo[2,3-d]pyrimidin-5-yl)-2-fluorophenyl)-2,3-dichloro-l-benzenesulfonamide;

N-(4-(4-amino-7-cyclopentyl-7H-pyrrolo[2,3-d]pyrimidin-5-yl)-2-fluorophenyl)-4-bromo-2,5-difluoro-l-benzenesulfonamide;

N-(4-(4-amino-7-cyclopentyl-7H-pyrrolo[2,3-d]pyrimidin-5-yl)-2-fluorophenyl)-2-chloro-4-cyano-l-benzenesulfonamide;

N-(4-(4-amino-7-cyclopentyl-7H-pyrrolo[2,3-d]pyrimidin-5-yl)-2-fluorophenyl)-2-chloro-6-methyl-l-benzenesulfonamide;

N-(4-(4-amino-7-cyclopentyl-7H-pyrrolo[2,3-d]pyrimidin-5-yl)-2-fluorophenyl)-3-chloro-2-methyl-l-benzenesulfonamide;

N-(4-(4-amino-7-cyclopentyl-7H-pyrrolo[2,3-d]pyrimidin-5-yl)-2-fluorophenyl)-4,5-dibromo-2-thiophenesulfonamide,

N-(4-(4-amino-7-cyclopentyl-7H-pyrrolo[2,3-d]pyrimidin-5-yl)-2-fluorophenyl)-5-bromo-2-thiophenesulfonamide,

N-(4-(4-amino-7-cyclopentyl-7H-pyrrolo[2,3-d]pyrimidin-5-yl)-2-fluorophenyl)-3-bromo-5-chloro-2-thiophenesulfonamide,

N-(4-(4-amino-7-cyclopentyl-7H-pyrrolo[2,3-d]pyrimidin-5-yl)-2-fluorophenyl)-2,5-dichloro-3-thiophenesulfonamide,

N-(4-(4-amino-7-cyclopentyl-7H-pyrrolo[2,3-d]pyrimidin-5-yl)-2-fluorophenyl)-2,1,3-benzothiadiazole-4-sulfonamide,

N-(4-(4-amino-7-cyclopentyl-7H-pyrrolo[2,3-d]pyrimidin-5-yl)-2-fluorophenyl)-2,1,3-benzoxadiazole-4-sulfonamide,

N-(4-(4-amino-7-cyclopentyl-7H-pyrrolo[2,3-d]pyrimidin-5-yl)-2-fluorophenyl)-7-chloro-2,1,3-benzoxadiazole-4-sulfonamide,

N-(4-(4-amino-7-cyclopentyl-7H-pyrrolo[2,3-d]pyrimidin-5-yl)-2-fluorophenyl)-7-methyl-2,1,3-benzothiadiazole-4-sulfonamide,

N-(4-(4-amino-7-cyclopentyl-7H-pyrrolo[2,3-d]pyrimidin-5-yl)-2-fluorophenyl)-5-methyl-2,1,3-benzothiadiazole-4-sulfonamide,

N-(4-(4-amino-7-cyclopentyl-7H-pyrrolo[2,3-d]pyrimidin-5-yl)-2-fluorophenyl)-5-chloro-2,1,3-benzothiadiazole-4-sulfonamide,

N-(4-(4-amino-7-cyclopentyl-7H-pyrrolo[2,3-d]pyrimidin-5-yl)-2-fluorophenyl)-(2-nitrophenyl)methanesulfonamide; and

N-(4-(4-amino-7-cyclopentyl-7H-pyrrolo[2,3-d]pyrimidin-5-yl)-2-fluorophenyl)-2,5-dibromo-3,6-difluoro-l-benzenesulfonamide;

and pharmaceutically acceptable salts thereof.

47. The compound of Claim 1, wherein L is $-NHSO_2-$ or -NHC(O)-.

48. The compound of Claim 1, wherein L is $-NHSO_2CH_2-$, $-NHC(O)CH_2-$, or $-NHSO_2CH=CH-$.

49. (New) A compound according to claim 1 wherein A is a five or six membered heteroaromatic ring.

50. (New) A compound according to claim 1 wherein L is -N(C(O)OR)-; -N(C(O)R)-; -N(SO_2R)-; -CH_2O-; -CH_2S-; -CH_2N(R)-; -CH(NR)-; -CH_2N(C(O)R))-; -CH_2N(C(O)OR)-; -CH_2N(SO_2R)-; -CH(NHR)-; -CH(NHC(O)R)-; -CH(NHSO_2R)-; -CH(NHC(O)OR)-; -CH(OC(O)R)-;-CH(OC(O)NHR)-; -CH=CH-; -C(=NOR)-; -C(O)-; -CH(OR)-; -NHC(O)R_{130}-; -N(R)S(O)-; -NHSO_2R_{130}-; -OC(O)N(R)-; -S(O)N (R)-; -N(C(O)R)S(O)-; -N(C(O)R)S$(O)_2$-; -N(R)S(O)N(R)-; -N(R)S$(O)_2$N(R)-; -C(O)N(R)C(O)-; -S(O)N(R)C(O)-; -S$(O)_2$N(R)C(O)-; -OS(O)N(R)-; -OS$(O)_2$N(R)-; -N(R)S(O)O-; -N(R)S$(O)_2$O-; -N(R)S(O)C(O)-; -N(R)S$(O)_2$C(O)-; -SON(C(O)R)-; -SO_2N(C(O)R)-; -N(R)SON(R)-; -N(R)SO_2N(R)-; -N(R)P(OR')O-; -N(R)P(OR')-; -N(R)P(O)(OR')O-; -N(R)P(O)(OR')-; -N(C(O)R)P(OR')O-; -N(C(O)R)P(OR')-; -N(C(O)R)P(O)(OR')O- or -N(C(O)R)P(OR')-, wherein R and R' are each, independently, -H, an acyl group, a substituted or unsubstituted aliphatic group, a substituted or unsubstituted aromatic group, a substituted or unsubstituted heteroaromatic group, or a substituted or unsubstituted cycloalkyl group and R_{130} is an aliphatic group.

51. (New) A compound according to claim 1 wherein R_3 is a substituted or unsubstituted cycloalkyl, or a substituted or unsubstituted heterocycloalkyl; or L is NRSO_2-, NRC(O)-,-NRC(O)O-, -S$(O)_2$NR-, -C(O)NR- or -OC(O)NR-, and R_3 is substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl or substituted or unsubstituted aralkyl.

52. (New) The compound N-(4-(4-amino-7-cyclopentyl-7H-pyrrolo[2,3-d]pyrimidin-5-yl)-2-fluorophenyl)-2-(trifluoromethoxy)-1-benzenesulfonamide.